C, Albright G, Adams BV, Raskin P: Lipoprotein(a) levels in diabetes mellitus: relationship to metabolic control. *Ann Intern Med* 117:42–47, 1992
5. Garber AJ, Jones PH, Ghanem KK, Morrisett JD: Response of plasma lipoprotein(a) levels to diabetes control therapy (Abstract). In *Proc 9th International Symposium on Atherosclerosis*. Rosemont, IL, 1992, p. 12
6. Taskinen MR, Enholm C, Janbianen M, Kauppinen-Makelin R, Yki-Jarvinen H, FINMIS Group: The concentration of Lp(a) is not influenced by the degree of glycemic control in NIDDM (Abstract). In *Proc 9th International Symposium on Atherosclerosis*. Rosemont, IL, 1992, p. 196
7. Heller FR, Galanti L, Jamart J, Parfonry A, Honore P, Hondekijn J-C, Derue G, Buysschaert M, Novik V: Serum lipoprotein(a) in patients with diabetes mellitus. *Diabetes Care* 16:819–822, 1993
8. Baldo-Enzi G, Baiocchi MR, Crepaldi G: Comparison of lipoprotein(a) assay methods in serum and in a plasminogen-free fraction. *Clin Chim Acta* 218:85–95, 1993
9. Csaszar A, Dieplinger H, Sandholzer C, Karadi I, Juasz E, Drexel H, Halmos T, Romics L, Patsch J, Utermann G: Plasma lipoprotein(a) concentration and phenotypes in diabetes mellitus. *Diabetologia* 36:47–51, 1993
10. Boerwinkle E, Leffert CC, Lin J, Lackner C, Chiesa G, Hobbs HH: Apolipoprotein(a) gene accounts for greater than 90% of the variation in plasma lipoprotein(a) concentrations. *J Clin Invest* 90: 52–60, 1992

IDDM and Celiac Disease

The letter of Chowdury et al. (1) demonstrated by epidemiological methods that the prevalence of symptomatic celiac disease (CD) in adult insulin-treated patients is much lower than in several studies (2–4), namely, only 0.17%.

Reports on an increased association of insulin-dependent diabetes mellitus (IDDM) and CD come partly from case histories (5–7) and from a few studies from Italy (3), Finland (2), and Sweden (4), finding a prevalence of CD up to 4% in young IDDM patients (most cases being asymptomatic only and found by screening for antigliadin antibodies [AGA]).

There are no accurate estimates of the prevalence of subclinical CD in unselected populations using screening for AGA followed by intestinal biopsy.

All prevalence data on CD are derived only from clinically symptomatic cases, and the prevalence rates, including asymptomatic cases, are probably much higher. Therefore, the comparison between prevalence rates arising from highly sensitive screening procedures for subclinical disease and prevalence rates of clinically symptomatic cases seems to be inappropriate and results in misleading conclusions.

Austria is a country with a high prevalence of CD compared with the western New York area (8). Preliminary results from a collaborative study in Austria show a frequency of 1:1,200 for the period 1983–1987 of CD in the general pediatric population; therefore, in 1985, we tested 164 (90 male, 74 female) diabetic children and adolescents for IgG AGA by red cell immunosorbent fluorescence test (9). Their mean age was 12.1 ± 3.5 years, their manifestation was at 8.3 ± 34 years of age. None of them were previously diagnosed with CD. Eleven patients (8 males, 3 females) had IgG AGA ≥1:32 (mean age 13.5 ± 1.2 years). Only one boy presented with delay in growth and pubertal development. Ten of IgG AGA positive children underwent intestinal biopsy, which was found to be normal in all cases. One girl (15 years old, 1-year duration of IDDM) without clinical symptoms of malabsorption refused to be biopsied.

Assuming a sensitivity of ~100% of the screening test used, the maximal prevalence of CD in our IDDM patient cohort would be only 0.61% even for the asymptomatic subclinical form of CD. The reason for the observed higher prevalence of subclinical CD in other IDDM cohorts, such as in Finland (2) and Sweden (4) with a five times higher rate, remains obscure.

On the other hand, there are well-documented geographical differences in the prevalence of IDDM with an almost five times higher rate in Finland than in Austria (10).

Genetic as well as environmental factors may contribute to these regional differences in the occurrence of IDDM and the prevalence of subclinical CD in IDDM.

In accordance with Chowdury et al. (1), we believe that CD in young IDDM patients is a rare occasion and that failure to thrive or insufficient metabolic control far more often is the consequence of inadequate treatment of IDDM with insulin or diet.

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References

1. Chowdury MM U, Burden AC, Burden ML, Sher K: IDDM and celiac disease (Letter). *Diabetes Care* 17:160, 1994
2. Savilathi E, Simell O, Koskimies S, Rilva A, Akerblom HK: Celiac disease in insulin-dependent diabetes mellitus. *J Pediatr* 108:690–693, 1986
3. Cacciari E, Salardi S, Volta U, Biasco G, Partesotti S, Mantovani A, Cicognani A, Tonioli S, Tassoni P, Pirazzoli P: Preva-

lence and characteristics of Coeliac Disease in type 1 Diabetes mellitus. *Acta Paediatr Scand* 76:671–672, 1987
4. Signs N, Johansson C, Elfstrand PO, Viander M, Lanner A: Prevalence of coeliac disease in diabetic children and adolescents in Sweden. *Acta Paediatr* 82:748–751, 1993
5. Thain ME, Hamilton JR, Ehrlich RM: Coexistence of diabetes mellitus and celiac disease. *J Pediatr* 85:527–529, 1974
6. Walsh CH, Cooper BT, Wright AD, Malins JM, Cooke WT: Diabetes mellitus and coeliac disease: a clinical study. *Q J Med* 1985:89–100, 1978
7. Catassi C, Natalini G, Rätsch IM, Gabrielli O, Coppa GV, Girogi PL: Documented latent coeliac disease in a child with insulin-dependent diabetes mellitus. *Eur J Pediatr* 150:832–834, 1991
8. Rossi TM, Albini CH, Kumar V: Incidence of celiac disease identified by the presence of serum endomysial antibodies in children with chronic diarrhea, short stature, or insulin-dependent diabetes mellitus. *J Pediatr* 123:262–264, 1993
9. Stern M, Fischer K, Grüttner R: Immunofluorescent serum gliadin antibodies in children with coeliac disease and various malabsorptive disorders. *Eur J Pediatr* 130:155–172, 1979
10. Green A, Gale EAM, Patterson CC, Eurodiab ACE Study Group: Incidence of childhood-onset insulin-dependent diabetes mellitus: the Eurodiab ACE Study. *Lancet* 339:905–909, 1992